

Applicant : Andreas N. Wiswesser et al.
Serial No. : 10/616,488
Filed : July 8, 2003
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Attorney's Docket No.: 05542-369003 / 2562C2/CMP

REMARKS

In reply to the Office Action of March 23, 2005, the applicant submits the following remarks and respectfully requests reconsideration.

Claims 22-23, 26-27, 29, 38-39, 40, and 42-43 were rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sandhu et al (U.S. Pat. No. 5,486,129). Claim 22 has been amended for the purpose of clarification. No new matter has been added.

Claims 28, 30, and 47 were rejected under 35 U.S.C 103(a) as being unpatentable over Sandhu et al (U.S. Pat. No. 5,486,129). Claims 44-46 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al (U.S. Pat. No. 5,486,129) in view of Japan No. 403234467. Claims 24-45 and 41 were objected to as being dependent upon a rejected claim.

The applicant respectfully traverses the rejections and directs the Examiner's attention to FIG. 1 and column 6, lines 30-34 of Sandhu. The system described in Sandhu includes a single laser source and controller (64), which is coupled to multiple light transmitter/receiver units (62). By contrast, claim 22 explicitly recites an apparatus that includes "a plurality of optical systems located in [a] platen, each of the plurality of optical systems including a light source to independently generate a light beam through an associated one of [a] plurality of optical apertures".

The Examiner responds by stating that Sandhu's light transmitter/receiver units 62 may be considered as multiple optical systems. Even if the Examiner's characterization of Sandhu is correct, the light transmitter/receiver units (62) in Sandhu do not have independent light sources. That is, a given light transmitter/receiver unit (62) in Sandhu does not include "a light source to independently generate a light beam," as required by claim 1. Instead, all of Sandhu's transmitter/receiver units (62) transmit light from a single laser source (64).

As explained in the specification of the present application, an apparatus having multiple independent light sources has several potential advantages over an apparatus with a single light source, such as allowing for different optical systems to operate at different effective wavelengths. Employing two optical systems operating at different effective wavelengths allows more accurate measurements.

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Furthermore, the apparatus recited in claim 22 includes "a plurality of optical systems located in the platen, each of the plurality of optical systems including [...] a sensor to independently measure light from [a] light beam that is reflected from [a] substrate to independently generate an intensity signal". The applicant submits that the transmitter/receiver units (62) in Sandhu "transmit light at the wafer face and collect reflections therefrom". However, a given transmitter/receiver unit (62) in Sandhu does not include a sensor (e.g., photodetector) that independently measures light and independently generates an intensity signal. Sandhu does not explicitly state how the laser apparatus measures the reflections, but it appears that the reflections are measured using the same single controller (64). Again, even if Sandhu's light transmitter/receiver units (62) may be considered as multiple optical systems, nothing in Sandhu teaches or suggests that each of the multiple optical systems includes "a sensor to independently measure light from [a] light beam that is reflected from [a] substrate to independently generate an intensity signal," as recited in claim 22. For at least these reasons, claim 22 and its dependent claims are allowable.

In response to the applicant's arguments filed January 11, 2005, the Examiner mentions Hiyama et al (U.S. Patent No. 5,838,447). However, the Examiner does not establish a prima facie case of obviousness. For example, the Examiner does not provide motivation to combine Sandhu with Hiyama.

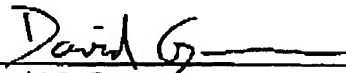
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Respectfully submitted,

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